

## ABSTRACT

A compact air-ventilator with high efficiency thermal exchanger and air filter in which the thermal exchanger utilise a light-weight assembly of parallelly stacked thin metallic plates with pre-formed spaces. The high efficiency air filter includes a combination of filter elements including a mesh grid, an activated carbon layer and a HEPA filter. This air-ventilator can be built-in as part of an air-conditioner or as a stand alone unit to provide additional air circulating to conventional air-conditioners to improve indoor air quality. The thermal exchanger as well as the filters can be made with modular design to allow for easy periodic maintenance and replacement.